

REMARKS

A petition for a three month extension of time has today been filed as a separate paper and a copy is attached hereto.

The further functional definition of the NH group added by amendment to claim 1 finds corresponding description at page 7, lines 22-28 of applicants' specification. New claim 7 finds support at page 8, lines 1-5 of applicants' specification. Finally, new claim 8 finds support at page 23, lines 11-17 of applicants' specification.

The rejection of all pending claims for obviousness over European Patent Publication 654611 in view of Grasshoff, Borrer et al and Busman et al is respectfully traversed. As the examiner correctly notes, the primary reference (EP 654611) does not disclose "the use of a secondary acid generator or acid proliferation agent that generates new acid by reacting with an acid released by exposure of the photoacid." This EPO publication is the prior art discussed at length at pages 3-5 of applicants' specification. As noted there, EP 654611 teaches a composition including a photochemical acid former which, when exposed to electromagnetic radiation or heat, generates an acid which serves to remove a protecting group from a soluble pigment precursor. Upon removal of the protecting group, the molecules of the soluble pigment precursor aggregate within a resin layer to form pigment fine particles. The foregoing is described in the reference publication and is summarized at page 3, lines 2-17 of applicants' specification. The problem with the invention as described in the primary

reference is elaborated upon at page 3, line 18 to page 5, line 8 of applicants' specification. One problem associated with this prior art reference relates to the rate of the relatively large precursor molecules which is required for aggregation. The present invention provides a solution to the problems uniquely associated with the formation of a pigment from a pigment precursor by aggregation within a resin matrix.

Accordingly, the examiner relies upon the teachings of Grasshoff et al as suggesting the use of first and second acid generators, acknowledged to be missing from the teachings of the European patent. In the color forming system of Grasshoff et al, as described beginning at column 14, line 60, the secondary acid reacts with an acid-sensitive dye in such a way as to change the color of the dye. Also see column 28, lines 33-38 of Grasshoff et al. As noted in applicants' specification at page 1, line 34 to page 2, line 13, image forming elements employing dyes are quite different from those employing pigments in that the mechanism of the image formation differs as between dyes and pigments and the two different systems present different sets of problems. It is respectfully submitted that the examiner is improperly transposing teachings of Grasshoff et al relating to color formation with dyes, wherein an acid reacts with the dye molecule to change its color and a pigment forming system as disclosed by the European reference wherein color formation is through the mechanism of aggregation of molecules of a pigment precursor. In a dye based image forming system such as disclosed by Grasshoff et al, one does not encounter the problem of migration of large pigment precursor molecules which is necessary for the aggregation mechanism.

The additional citations of Busman et al and Borrer et al are considered to be merely cumulative with Grasshoff et al in that each of Borrer et al and Busman et al also relate to image methods and elements employing dyes.

Summarizing, none of Grasshoff et al, Borrer et al or Busman et al disclose or suggest using a secondary acid generator, in addition to a first acid generator for the purpose of removal of an alkoxycarbonyl protecting group in a system where a precursor sans the protecting group self-aggregates. There is no suggestion in any of Grasshoff, Borrer et al or Busman et al in a system such as that of the primary reference wherein nano-sized pigment particles are formed by aggregation under the influence of electromagnetic radiation or heat. Finally, there is no suggestion in any of Grasshoff et al, Borrer et al or Busman et al that the "acid proliferation agent" or "secondary acid generator" would accelerate removal of the alkoxycarbonyl group.

At page 6, lines 9-16 of their specification applicants' teach:

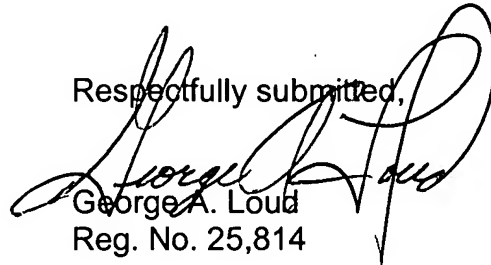
On the other hand, it has been taught that since most of the pigments have nitrogen atoms which would act as a base and would trap a strong acid, the acid proliferation reaction would not occur. Unexpectedly, however, the acid proliferation agent has been found to exhibit an effect of accelerating the deprotecting reaction. The present invention has been completed on the basis of this finding.

In other words, in a pigment system wherein the pigment precursor has basic, NH groups, it would be expected that the base would trap the strong acid so that the acid proliferation reaction would not occur. The acceleration of the deprotecting reaction was also unexpected. For these reasons, it is respectfully submitted that it would not

have been obvious to transpose use of an "acid proliferation agent" or "secondary acid generator" from a dye system to a pigment forming system. In the dye systems of Grasshoff et al, Borrer et al and Busman et al there are no such NH groups, no such deprotection reaction and no such aggregation.

In conclusion, it is respectfully requested that the examiner reconsider the rejections of record with a view toward allowance of the claims as amended.

Respectfully submitted,



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